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The EMU Macroeconomic Policy Regime and the European Social Model*

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ABSTRACT

This paper will be a chapter in *Euros and Europeans: Monetary Integration and the European Social Model*, Andrew Martin and George Ross, eds., Cambridge University Press, 2004. Over time, the impact of EMU on the European social model (ESM) is likely to depend most fundamentally on its effects on unemployment. If EMU makes possible a significant reduction in unemployment, it poses no threat to the ESM. However, EMU is likely to keep unemployment at high levels. This expectation hinges on two propositions: 1) in order to bring unemployment back down after an extended period of disinflation has kept growth below its potential and unemployment high, a period of economic growth above its long-run potential – a growth spurt – is necessary, and 2), the EMU macroeconomic policy regime, as interpreted and implemented by the ECB, blocks such a growth spurt. The first part of the paper describes the policy regime, arguing that the ECB's implementation of it so far and the bank's rationale for doing so indicate an unwillingness to permit the growth spurt needed to significantly reduce unemployment. Its rationale invokes the orthodox view that monetary policy has no long run effects on growth and employment. This view is challenged by an alternative view, described in the second part. The alternative rests mainly on an empirical analysis of cases in which disinflation was and was not followed by growth spurts during the 1980s and 1990s. Showing that in the long run unemployment was lower without higher inflation where monetary policy permitted growth spurts than where it did not, this analysis suggests that the ECB's orthodoxy is fundamentally flawed and that adherence to it will perpetuate Europe's high unemployment.

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Over time, the impact of European Monetary Union (EMU) on the European social model (ESM) is likely to depend most fundamentally on its effects on unemployment. If EMU makes it possible to reduce unemployment significantly, it poses no threat to the ESM. On the contrary, EMU could facilitate its reconfiguration, preserving its high level of social protection and labor rights while adapting it to new needs and improving its equity and efficiency. If EMU instead keeps unemployment high, it threatens the ESM's two main components: the welfare state's financial viability and the trade unions' capacity to bargain over wages and working conditions. Monetary union as such could potentially help Europe reach the reaffirmed goal of full employment.[1] But the EMU macroeconomic policy regime, as the European Central Bank (ECB) interprets it, could make that goal unattainable.

This paper argues that EMU is likely to keep unemployment at high levels. The argument hinges on two propositions: 1) in order to bring unemployment back down after an extended period of disinflation has kept growth below its potential and unemployment high, a period of economic growth above its long-run potential – a growth spurt – is necessary; and 2) the EMU macroeconomic policy regime, as interpreted and implemented by the ECB, blocks such a growth spurt. The first of the paper's two main sections describes the policy regime, arguing that the ECB's implementation of it so far and the bank's rationale for doing so indicate an unwillingness to permit the growth spurt needed to significantly reduce unemployment. Its rationale invokes the orthodox view that monetary policy has no long-run effects on growth and employment. However, this view is challenged by an alternative view. Described in the second section, the alternative rests mainly on an empirical analysis of cases in which disinflation was and was not followed by growth spurts during the 1980s and 1990s. Showing that in the long run unemployment was lower without higher inflation where monetary policy permitted growth spurts than where it did not, this analysis casts serious doubt on the ECB's orthodoxy.

The EMU Macroeconomic Policy Regime

Economic policy regimes are the systematic patterns of policy pursued by official decision makers over the long run, reflecting the basic priorities to which they are committed (Temin 1989: 91-105; Forsyth and Notermans 1997: 39-48; Notermans 2000a: 33-37).[2] Policy regimes shape private economic actors' expectations about the conditions under which they must make their own decisions. As argued in the literature on regimes prioritizing price stability, for example, wage and price setters are influenced by the expectation that central banks will not accommodate what the banks regard as inflationary decisions. These expectations are formed not so much by the banks' declared commitment to price stability as by their repeated monetary policy tightening in the face of inflation increases which renders their declarations credible. Equally important from the perspective of unemployment is the influence policy regimes have on the expectations of business investment decision makers. Their judgments about how much investment in new capacity (additions to the capital stock) and a corresponding increase in labor is likely to be profitable hinge on whether the prevailing policy regime leads them to expect sufficient growth in demand to absorb the resulting output growth, given prices that cover costs, including the cost of capital.[3] Employment growth depends heavily on these judgments. Unemployment in turn depends on the relationship between the resulting employment growth rate and the growth rates of productivity and the labor force. Put simply, if investment is insufficient to absorb the growth in the labor force, given productivity growth, unemployment will increase; if the investment is sufficient to generate demand for labor exceeding labor-force growth at concurrent productivity growth, unemployment will decrease. Thus, unemployment is

[1]Presidency Conclusions (2000), Lisbon European Council, March.

[2]"The regime is an abstraction from any single policy decision, it represents the systematic and predictable part of all decisions. It is the thread that runs through the individual choices that governments and central banks have to make. It is visible even though there inevitably . . . [are] some decisions that do not fit the general pattern. These isolated actions have little impact because they represent exceptions to the policy rule, not new policy regimes (Temin 1989: 91).

[3]The relationship between policy regimes and capital formation is more fully discussed below**,** pp. 17-18.

crucially affected by the impact of policy regimes on investment decision makers' expectations of demand growth (Collignon 2002: 167-170; Temin 1989: 104).

In response to rising inflation in the 1970s and 1980s, most governments that had been more or less committed to a full employment regime in the earlier post-Second World War period successively abandoned it in favor of a price stability regime, typically increasing central bank independence to make their commitment credible and thereby reshape other actors' expectations (Notermans 2000, 166-172). EMU institutionalized this regime shift at the European level, making price stability the "primary goal" to be pursued by the ECB while leaving it to the ECB to define the goal, and decide how to pursue it and how to reconcile it with the EU's other economic goals (Chapter 1, this volume). How the ECB interprets this mandate is bound to be decisive in shaping investment decision makers' expectations in the eurozone.

The ECB is in an extraordinarily powerful position to interpret its mandate as it sees fit. It began by adopting a relatively restrictive definition of price stability as a "year-on-year increase in the Harmonised Index of Consumer Prices (HICP) of the euro area below 2 percent" (European Central Bank, hereafter ECB, 2001e: 38).[4] It subsequently used its discretion in ways that sometimes suggested it was being less restrictive and was pragmatically taking growth and employment into account more than might have been expected. Its actions provide ambiguous evidence for this, however. Initially, the ECB eased policy. In December 1998, it orchestrated a reduction of interest rates by the national central banks to 3 percent, the level at which EMU was to go into effect a month later (ECB 1999a:8).[5] Then, in response to continued international financial turbulence, it lowered its rate for "main refinancing operations," its principal monetary policy instrument, 50 basis points in March of 1999.[6] With tensions eased, the rate went back to 3 percent in November. It was then rapidly increased by another 175 points to 4.75 from February to October 2000, staying there until a small cut of 25 points in May 2001, despite the slowdown in European growth and the sharper slowdown in the U.S. Despite proliferating calls for earlier and stronger action from public and private sources,[7] the ECB made no further cuts until a 25-point cut in August, followed by a series of cuts bringing the rate down to 2.0 in June 2003.

The rapid 225-point runup in the rate from November 1999 to October 2000 contrasts sharply with the Fed's 250-point reduction in its key rate over the fourteen months up to May 2001. However, the timing as much as the size of the ECB's tightening raises the question of the ECB's willingness to support a growth spurt sufficient to permit unemployment to be significantly reduced. When EMU went into effect in January 1999, the eurozone was experiencing a strong recovery from the deep 1990s recession. The initial recovery from its 1993 trough, when GDP declined 0.8 percent, was interrupted in 1996 but was renewed, reaching a peak annual rate of 3.7 percent in the second quarter of 2000. This brought unemployment down to 8.9 percent from its 1996 level of 11.5 percent. Since its peak, growth slowed sharply, falling to 2.5 percent in 2001 Q1 and continuing to a trough of 0.3 percent in 2002 Q1. The decline in unemployment continued until it levelled out at the still high rate of 8 percent throughout 2001, rising gradually since then. It was precisely in the period of most rapid growth that the ECB's interest-rate increase was concentrated, rising by 125 basis points from February to May 2000, and by a further 50 points to 4.75 percent in October. The ECB, like others, evidently underestimated the impact of the American economy's sharp slowdown on Europe when it repeatedly insisted that its effect would be minimal and eurozone

[4]The 2 percent upper limit is regarded as too restrictive by a number of economists including Akerlof et al. 2000, De Grauwe 2002, Sinn and Reutter 2001, and Wyplosz 2000. In May 2003, the ECB slightly changed its goal to "close to 2% over the medium term" to "provide a sufficient safety margin against the risks of deflation" (2003: 5), but with the explicit intent of avoiding inflation much below percent rather than of accepting inflation above percent as implied by a target range of 1 to 3 percent urged by some.

[5]All data in this and the following paragraphs are from the ECB *Monthly Bulletin*.

[6]Rate changes dated by month they go into effect.

[7]For example, the International Monetary Fund (IMF 2001), Germany's Ifo Institute (*Financial Times* 2001b), and *Financial Times* editorial (2001b).

growth would only decline to around 3 percent, but to the extent that the considerably greater decline was indeed due to factors internal to the eurozone, the ECB's marked tightening of monetary policy was probably the most important of them.[8]

To the ECB, its sustained tightening in the face of declining growth was required by its self-defined price stability goal. The "headline," or total HICP, inflation rate breached the 2-percent limit in June 2000 and continued rising to 3.4 percent in May 2001. However, the Bank acknowledged that this was the combined result of sharply increased oil prices, aggravated by the euro's fall against the dollar, in which oil prices are denominated, and the livestock epidemics that pushed up meat prices (ECB 2001a: 5-6). These presumably temporary inflationary pressures were essentially the only ones in the eurozone, as reflected in its core, or underlying, inflation rate, excluding energy and unprocessed food. It remained below the 2-percent threshold until April 2001, having crept up as the oil and meat price spikes worked through the economy. The ECB explained that its policy was proactively aimed at averting an increase in inflationary expectations and "second round" inflationary pressures from efforts to maintain margins and real wages (ECB 2001d: 5). While undoubtedly so, its actions also seemed to reflect a fundamental position that a growth rate exceeding the 2 to 2.5 percent it views as the economy's long-term trend is not consistent with price stability and therefore cannot be allowed.

However, according to European Commission estimates, a growth rate of 3 to 3.5 percent would have to be maintained over the medium term in order to significantly reduce Europe's unemployment.[9] That the ECB might permit such a growth spurt was hinted by its Vice President, Christian Noyer, when he assured the European Parliament in September 1999 that the Bank would "give an economic upturn a chance" (European Parliament 1999). However, its subsequent swift, strong tightening of monetary policy as the growth spurt was underway suggests that it is not ready to give above-trend growth much of a chance. Whatever ECB policy may have contributed to the fall in the eurozone growth rate to the midyear revised estimate of 2.5 percent in 2001 (ECB 2001c: 5), the fall was welcomed by the ECB. Otmar Issing, ECB Executive Board member and chief economist, said in March it would not be "bad news but good news" if the eurozone grew at its long-term trend rate (Issing 2001a).[10] That is, it is good news that the brief growth spurt that brought unemployment down somewhat was aborted. If, as we argue, a sustained growth spurt is necessary to bring unemployment down to pre-disinflation levels, this implies that the ECB has a growth rate target which condemns Europe to continued high unemployment.

Although such a growth target is not part of the Bank's declared strategy, it is implied not only by its actions but also by its rationale for them. Acknowledging that unemployment was "still high" and that further decline requires higher growth, the ECB repeatedly insists that higher growth can be consistent with price stability only if there is "comprehensive structural reform" to remove market "rigidities." While the rigidities to be removed are in product and financial as well as labor markets (e.g, Issing 2000), "they relate in particular to European labor markets" (ECB 1999a: 2, 31). The ECB described the "far higher" un-

[8]The ECB in effect said as much by crediting its interest-rate increases with lowering the growth of M3 (ECB 2001b: 5). The contractionary effect of increased interest rates was partially offset by the euro's depreciation against the dollar. But that itself probably resulted from expectations that the ECB would keep growth lower in the eurozone than the US, so the ECB was essentially sacrificing domestic demand growth for export demand (reflected in eurozone trade surpluses), a doubtful bargain given the relatively low export share in the eurozone economy as a whole.

[9]Cited in Collignon 2002: 155. A French study estimated that in order to bring French unemployment down from the 1998 level of 12.5 percent to 7.5 percent in 5 years, a growth rate of 3.6 to 3.8 percent a year would be necessary, exceeding the long-term potential growth rate by 1.5 percent per year over that period (Blanchard and Fitoussi 1998: 25).

[10]In the ensuing months, the ECB Monthly Bulletin welcomed the 2001 slowdown of growth to its trend rate as reducing inflationary pressures (e.g. ECB 2001c: 5-6). The ECB was already defending its 100-basis-point interest-rate increase between November 1999 to March 2000, saying that, "Rather than nipping economic growth in the bud, such measures" create "the conditions for lasting strong economic growth" (ECB 2000a: 3).

employment in the euro area than the U.S. in 1999 as "overwhelmingly structural," attributable to "a host of factors, including structural features of the two labor markets such as wage and non-wage labor costs, employment protection legislation, and the scale and duration of unemployment benefits" (ECB 1999b: 13, 41; ECB 2001a: 6). By making labor markets in Europe more rigid than in the U.S., such institutional differences reduce the speed with which the European economy adjusts to shocks and limit "the pace at which an economy can grow without fueling inflationary pressures" (ECB 2001e: 15).

To the ECB, then, the unemployment rate associated with that growth pace is the lowest consistent with its definition of price stability – its view of what economists refer to as the equilibrium or non-accelerating inflation rate of unemployment (NAIRU). An attempt to bring unemployment below that rate by exceeding the speed limit without the structural changes in labor markets deemed necessary to increase the potential – i.e., non-inflationary – growth rate would succeed only temporarily. Over the long run, it would only increase inflation, which could only be stabilized by bringing growth back down to its potential and unemployment back up to its equilibrium rate. Accordingly, the ECB's standard response to calls for monetary easing is that monetary policy "cannot substitute for structural reforms" (Otmar Issing, quoted in *Financial Times* 2001c).[11] Central banks can thus do nothing to achieve higher growth and lower unemployment except to maintain price stability; that is the "best monetary policy can do to foster a high rate of growth of output" (Issing et al. 2001: 67).[12]

The ECB thereby denies that demand management, particularly monetary policy, has any direct responsibility for growth and employment. Virtually all responsibility is assigned instead to supply-side policies that reform the structure of markets, particularly labor markets, and to those, "governments as well as . . . economic agents on both the business and labour sides," who must carry them out (ECB 2001a: 6). The part that differences in macroeconomic policy might have in accounting for the difference in unemployment trends in the U.S. and Europe is virtually ignored. Absolved of any blame for increasing unemployment earlier, macroeconomic policy is also denied credit for reducing it in the late 1990s, even though eurozone nominal short-term interest rates in 1999 were a little over a quarter of what they were at their 1992 peak (OECD 2000b: 244). Without controlling for this huge easing of monetary policy, the bank instead ascribes "a considerable decline in unemployment" in some countries to labor-market reforms (ECB 2002: 5).[13] But "structural rigidities remain and these explained the still high levels of unemployment in the euro area in 2000" (Issing 2000; ECB 2001e: 15).

The institutions targeted for change by the ECB comprise a large part of the European social model. Given the ECB's attribution of America's lower unemployment to the institutions making its labor markets much more flexible than European labor markets, its implicit prescription for bringing European unemployment down to recent American levels is to transform the European social model into one more closely approximating the American one.[14] Although the Treaty confines the ECB's formal authority to monetary policy, reserving authority over employment relations and welfare state institutions to the member states, the ECB

[11]This is reminiscent of advice to Ramsey MacDonald in July 1930 to maintain the Gold Standard and "sweep away ruthlessly any lingering illusions that a substantial reduction of unemployment figures [was] to be sought in the artificial provision of unemployment" (quoted in Temin 1989: 63).

[12]Similarly, a Bundesbank president stated that: "It's not our job to guarantee full employment; we're concerned with stability and price levels." Quoted in Henning 1994: 199, note 41.

[13]The Commission, in contrast, reverses the relative weight of macroeconomic and structural factors, saying that "The strong employment performance of recent years . . . has been *due in large part to the favorable macroeconomic conditions*, but labor market developments also strongly suggest a reduction in structural unemployment thanks to reforms and policies to improve the functioning of labor markets implemented over the past decade" (*European Economy* 2001: 20; emphasis added). See Chapter 7, this volume, for the effect of monetary easing in Spain.

[14]A member of the ECB Governing Council told the author (not for attribution) explicitly that Europe could solve its unemployment problems by importing the American labor market.

is strongly positioned to use monetary policy as leverage to bring about the changes in institutions it deems necessary: it sets implementation of those changes as the condition on which it will allow growth and employment to increase. It would not necessarily succeed in bringing about those changes but its control of monetary policy enables it to hold employment hostage to its essentially neoclassical vision of well-functioning markets.

The ECB can claim with some validity that its view of the institutional determinants of equilibrium unemployment and hence the growth rate consistent with price stability reflects a "consensus" among economists (Duisenberg 1997; Issing 2000:12). Layard, Nickell and Jackson (1991) provide an authoritative statement of this view and it has been widely propagated by the *OECD Jobs Study* (1994), its follow-up reports, and a voluminous literature.

The consensus is by no means complete, however. An alternative view offers evidence that the primary reason why unemployment has been higher in Europe than in the U.S. since the early 1980s, and higher in some European countries than others, is not that labor markets are more rigid but that macroeconomic policy, especially monetary policy, has been more restrictive, resulting in lower growth in output and employment, and hence higher unemployment. It thereby also casts doubt on the theoretical underpinning of the ECB's insistence that monetary policy can have no durable effect on growth and employment. The alternative view does not deny that the structure of labor and other markets interacts with macroeconomic policy to affect the pace at which unemployment can be lowered without accelerating inflation, nor does it deny that changes in Europe's social model are desirable for many reasons apart from any macroeconomic effects they might have. However, it suggests that no amount of change in Europe's social model, including transforming it into one more like the American, would bring European unemployment down to American levels without a shift to a more expansionary policy regime. With such a regime shift, on the other hand, Europe might well achieve non-inflationary full employment with institutional changes consistent with its social model rather than moving toward the American model and the greater inequality and insecurity inherent in it.

Which of the views is more nearly correct is accordingly central to evaluating the implications of EMU for the ESM. While we cannot pretend to settle the issue, we can show why we find the alternative view more persuasive.

Explaining Unemployment

That differences in macroeconomic policy are a large part of the explanation of variations in unemployment is strongly suggested by a cursory comparison. There is no doubt that the American economy has been much better at providing jobs than the European economy over the last four decades.[15] Over that whole period there has been an upward trend in unemployment in Europe and, despite large fluctuations, virtually no upward trend in the U.S. (Figure 2.1). The increasing gap in unemployment rates reflects much higher employment growth in the U.S., where it doubled over the four decades, compared with little more than 10-percent growth in Europe. Since the working-age population grew more slowly in Europe than the U.S., employment growth could have been somewhat lower without higher unemployment if productivity growth had not been higher in Europe. With somewhat higher productivity growth and employment growth so much lower in Europe, the unemployment rate increased relative to the U.S. rate despite an essentially stagnant participation rate in Europe. Employment growth was so much higher in the U.S. that the gap widened despite not only higher U.S. working-age population growth but also a substantial increase in participation. In short, higher job growth enabled the American economy to employ a higher share of a faster growing working-age population.

[15]"Europe" refers to the fifteen countries belonging to the EU prior to the 2004 enlargement. Data are missing for some countries in earlier years (OECD 1994: 10-17; ECB 2000b: 58).

Differences in unemployment, employment, and participation rates such as these between the U.S. and European averages can also be found within Europe, however. Unemployment varies widely among European countries: it is lower than in the U.S. in those countries with the lowest unemployment and higher than in the U.S. in those with the highest unemployment. There are also large differences among regions within countries, especially Italy, Germany and Belgium. Generally speaking, in European countries where unemployment has been relatively low, employment growth and participation rates have been relatively high, as in the U.S., although the countries experiencing this combination of trends have varied over time (Røed 2000: 2). Thus, higher job growth permitted both higher participation and lower unemployment in the U.S. and some European countries than in other European countries.

Comparing just the U.S. and Europe, two features of unemployment differences stand out. First, prior to 1982, unemployment was higher in the U.S. than in Europe. Second, the divergence in unemployment trends was not steady but concentrated in specific periods. One was in 1975-79 when unemployment still was higher in the U.S. than Europe. Since the unemployment gap switched in favor of the U.S. in 1982, there were two periods in which the gap widened, 1982-86 and 1992-96, after which the increased unemployment in Europe persisted at the successively higher levels but without further widening of the gap. What has to be explained then is why the gap widened in those periods and why it persisted in the subsequent periods.

It is hard to believe that markedly contrasting policies coinciding with the increases in the gaps do not have a lot to do with them. In both the U.S. and Europe there were shifts to macroeconomic policy regimes giving higher priority to price stability. In the U.S., however, price stability was essentially added to the goals of growth and employment, whereas in Europe employment and growth were subordinated to price stability. This contrast is discernible in the patterns of policy pursued by the two main central banks, the American Federal Reserve Bank (Fed), and the German Bundesbank (Buba) which came to set monetary policy for most of Europe (Clarida et al. 1998).[16] Both shifted to a pattern of policy in which they acted swiftly and strongly against inflation. However, the Fed subsequently acted as swiftly and strongly against recession as against inflation, exhibiting a "symmetrical reaction function," while the Buba moved less swiftly and strongly against recession than against inflation, exhibiting instead an "asymmetrical reaction function" (Clarida and Gertler, 1997; Collignon, 2001; Dolada et al. 2000; Soskice 1998). The timing of the shifts also differed, with the Buba making it in 1973 and the Fed in 1979 (Clarida and Gertler, 1997; De Long 1997).[17]

The period between the two shifts was the first in which European unemployment rose sharply relative to the U.S.. The collapse of Bretton Woods under the weight of the "Great Inflation" that diffused from the U.S. to the rest of the OECD freed the Buba to reorient monetary policy to the price stability goal written into its statute (Chapter 5, this volume). This reinforced generally restrictive responses to the further inflationary pressure from OPEC I in 1974, while the U.S. response was more expansionary. The Fed did not react strongly to inflation until OPEC II aggravated it and a new chairman, Paul Volcker, was appointed in 1979. When unemployment rose as steeply in America as in Europe in the following three years, the Fed's extreme tightening of monetary policy seemed to signal a shift to a regime every bit as restrictive as in Germany. But by 1982 the Fed had reversed itself and moved strongly in an expansionary direction for two years. By the time the Fed turned restrictive again, albeit briefly, highly expansionary fiscal policy had the U.S. economy booming. In contrast, the severe contraction initiated by the Buba and the Thatcher government in 1979 was reinforced by the French U-turn in 1983, so that European macropolicy continued to be restrictive in the early and mid-1980s when the unemployment gap again widened.

[16]Additional sources for comparisons of the policy-mix in the U.S. and Europe are Ball 1997, 1999, Baker and Schmitt 1999, De Grauwe 1998, Henning 1994, plus the OECD country surveys and semi-annual *Economic Outlook*. Central bank rates from IMF International Financial Statistics and U.S. Federal Reserve Bank website.

[17]Most other European countries made the shift at various times, including Britain in 1979, France in 1983, and Sweden in 1991.

Unemployment: EU and US, 1970
commonly used definitions

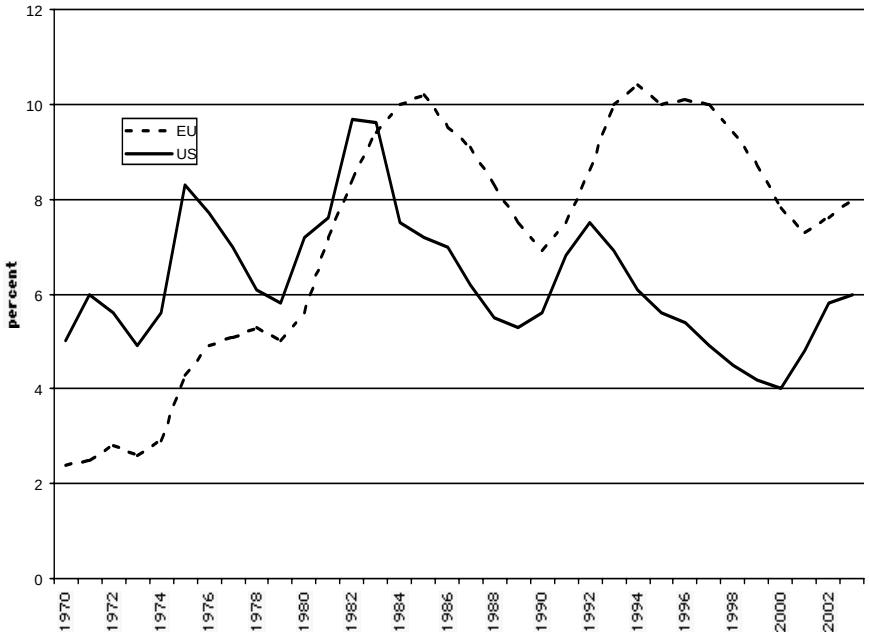

Figure 1

Source: OECD Economic Outlook
Note: German data include former GDR from 1991 on; 2003 estimated. For countries included in Europe, see note 15.

Comparisons of policy and performance since the late 1980s are complicated first by the exchange-rate gyrations and policy conflicts between American and European governments, which triggered the relaunch of monetary integration (Henning 1998), and then by German unification and the ensuing 1992-93 EMS crisis. Nevertheless, variations in macroeconomic policy continued to be broadly consistent with variations in the U.S.-Europe unemployment gap.

From the mid-1980s to 1992, the macroeconomic policy stances on both sides of the Atlantic were broadly similar, though with different mixes, consistent with a relatively unchanged unemployment gap. Both policy and performance then diverged sharply again, producing by far the largest gap yet. While the Fed continued reducing interest rates, kept them low between 1991 and 1993, and varied them slightly around a slightly higher level since then, the Bundesbank increased interest rates continuously from 1988 until monetary policy became extremely tight in 1992, only slowly relaxing it thereafter. This combined with the fiscal policy tightening required by the Maastricht deficit criteria to make macroeconomic policy so contractionary as to plunge Europe into the deepest recession of the whole postwar period. The responses to the issues posed by German unification contributed to this disaster in a scenario too complex to describe here.[18] Clearly, though, the resulting macroeconomic policy mix drove European unemployment to record levels, while in the U.S. growth sustained by the relaxation of monetary policy made it possible to gradually reduce the Federal deficit without offsetting the expansionary effect of lower interest rates, reducing unemployment to the lowest levels in decades (Blinder and Yellin 2001). In Europe, unemployment finally began falling in 1997 and the gap with the U.S. stopped increasing as recovery took hold.

[18]The impact of the Bundesbank's policy was amplified by the refusal of France and other EMS members to agree to a D-mark revaluation within the EMS Exchange Rate Mechanism, which would presumably have diminished inflationary pressure in Germany, eliciting a less restrictive response by the Bundesbank (Heisenberg 1999: 129-130).

Accelerating growth enabled the EMU entrants to meet the deficit criteria without further fiscal tightening, while monetary policy eased as interest rates converged downwards to the 3.0 rate set for the start of EMU.

Only as U.S. labor markets continued to tighten, with unemployment running at around two-fifths of the Euroland level, did the Fed gradually raise real interest rates to levels above those set by the ECB in an effort to bring the American economy down to a "soft landing" before inflation, running at twice the Euroland rate, began accelerating.[19] But when the American economy turned down, the Fed again displayed its readiness to act decisively in an effort to head off recession by bringing the key federal funds rate down. The ECB, on the other hand, acted more as the Bundesbank had done and kept monetary policy tight instead of trying to sustain the recovery in the face of the U.S. slowdown, lowering rates slightly and very slowly.[20] As in the 1980s, the central banks reacted in contrasting ways that coincided closely with variations in the unemployment gap between Europe and the U.S. in the 1990s.[21]

Stronger evidence that differences in monetary policy largely explain unemployment variations is provided by Laurence Ball (1997, 1999). He shows that a crucial difference in policy is whether it permits or prevents a growth spurt – a period of growth faster than the long-term potential or sustainable rate – following an increase in unemployment resulting from a disinflationary tightening of policy: if policy permits a growth spurt, unemployment goes back down toward its pre-disinflationary rate; if policy prevents a growth spurt, unemployment persists at around the high rate to which disinflationary policy raised it. That a period of above-potential growth was needed to bring European unemployment back down to pre-disinflation levels was already argued in the early 1980s by some mainstream economists: "*The economy must grow faster than its sustainable long-run growth rate*" (Layard et al., 1984: 465; emphasis in original). That such growth spurts enabled unemployment to fall after recessions in the U.S. was shown in work by Sichel and Romer and Romer cited by Ball (1999: 192). Comparing monetary policies in North America and Europe, Ball shows that those which permitted or prevented such growth spurts go a long way toward accounting for the different unemployment trends in the two areas. This provides an explanation for the persistence of the successive increases in the U.S.-Europe unemployment gap. Ball's work, recognized by the ECB as a "forceful defense" of a "heterdox viewpoint" (Issing et al, 2001: 18), provides the main empirical basis for our argument.

Ball's 1999 paper compares cases in which disinflation is and is not followed by a period of above-potential growth. The potential (or sustainable) growth rate is conventionally understood as the rate at which the economy can grow over the long run without accelerating inflation. The idea is that when the

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[19]The Fed arguably tightened too slowly, failing to restrain the asset price bubble that burgeoned only to be burst precipitously, and contributed to the bubble by fueling unrealistic expectations (De Grauwe 2003). Serious as it is, asset price inflation is more difficult to curb with the standard instruments of monetary policy (Gramlich 2001).

[20]Over the five years of the ECB's existence, its real interest rate averaged 1.3 percent, 1.9 percentage points higher than the Fed's -0.6 real interest rate, while unemployment in the eurozone averaged 7.9 percent, 2.9 percentage points higher than the U.S. average of 5 percent. In comparing Fed monetary policy favorably to that of the Buba and ECB, I in no way imply the infallibility sometimes ascribed to Fed Chairman Alan Greenspan, who has exploited his reputation to play a reactionary and illegitimate role in the politics of fiscal policy. See Krugman 2004.

[21]Writing in February 2002, Begg, D., et al. (2002a: 38-46) argue plausibly that the ECB acted differently in the eurozone than the Fed did in the U.S. because the fall in output was not as great as in the U.S., and that the Fed would have acted as the ECB did in response to the same conditions, based on Taylor-type rules or models that track both banks' actual reactions to price and output variations quite closely through 2001. However, in a November update they find that, contrary to what they expected, the ECB did not cut interest rates "despite a worsening in the economic outlook," and that even if the bank subsequently did so (which it did) it would be exhibiting the same "slow reaction . . . evident . . . during the summer of 2001 when interest rate cuts also came late." They contrast this with the Fed's action in cutting "interest rates once more by more than 0.5 percentage points" even though "growth forecasts for the U.S. economy during the same period . . . have been revised upwards" while those for the eurozone had been revised downwards (D. Begg et al. 2002b: 4). This suggests that the ECB and Fed indeed have different reaction functions. On limits of Taylor rules, see Note 36.

economy is at its potential growth rate, the unemployment rate is sufficient to discourage wage pressures that increase inflation – the so-called equilibrium unemployment rate or non-accelerating inflation rate of unemployment (NAIRU). However, estimated NAIRUs vary over time, posing a puzzle for theories attributing the NAIRU primarily to relatively invariant labor-market structures.[22] The comparison suggests an explanation: the unemployment rate when the economy is at its potential growth rate depends not primarily on labor-market structures but on whether a disinflation is followed by a growth spurt that brings output back up to its trend level.

Briefly, the results are as follows. After a period of disinflation that keeps growth lower and unemployment higher than they would have been if growth had remained at its potential rate, a period of growth above that rate brings the level of output up to where it would have been if the period of disinflation had not lowered the growth rate – i.e., output is brought back to its trend level. At that level, unemployment eventually falls to its pre-disinflation rate. Where there is no such growth spurt and growth simply returns to its potential rate at the lower level of output resulting from below-potential growth, unemployment remains higher than it would have been if there had been no below-potential growth. Where there is a growth spurt, it is initially accompanied by an increase in inflation, but it proves temporary. When the growth spurt is over and growth returns to its potential rate at the trend level of output, inflation comes back down to roughly the steady level associated with the potential growth rate. At that stage, inflation is not significantly higher than where there has been no growth spurt and no temporary increase in inflation but where unemployment is therefore higher. Policy that prevents a growth spurt in order to avoid a temporary increase in inflation at the cost of persistently higher unemployment achieves no significantly greater inflation gains over the long run than policy that permits a growth spurt and a temporary increase in inflation in order to achieve a greater reduction in unemployment over the long run.

The NAIRU, as conventionally estimated in terms of total unemployment, thus appears to have increased where there was no growth spurt while not increasing where there was one. If it is assumed *a priori* that equilibrium unemployment is determined by labor-market structure, something about that structure would have to explain an increase in the NAIRU where it appears to have occurred. Ball's analysis suggests that, on the contrary, the apparent increase in the NAIRU can be accounted for primarily by restrictive policy which keeps unemployment high beyond the point where it has disinflationary effects, and which prevents a growth spurt that brings output back up to its trend level and unemployment back down to its corresponding level rather than by labor-market structure.

The clearest evidence for these findings comes from a comparison of monetary policy in the early 1980s in response to recessions brought on to reduce the high inflation of the 1970s in six of the G7 countries, the North American two (NA2) and European four (E4).[23] Central banks in the NA2 shifted rapidly to strongly expansionary policies, cutting "nominal rates sharply whereas" the banks in the E4 "held them steady or raised them slightly." Measured from pre-recession peak to the quarter after the trough, these contrasting policies produced a cumulative average real interest-rate cut of 3.4 percentage points in the NA2 and average rise of 0.2 points in the E4 (1999: 196). The strong, rapid expansionary policies in the NA2 produced a growth spurt, averaging 5.2 percent annually in the U.S. and 6.2 percent in Canada over two years following the trough, well over their long-run growth trends. In each, the average annual growth rates settled back to approximately its long-run potential by five years after the pre-recession peak, and unemployment was reduced to below its previous level in the U.S. and nearly its previous level in Canada by eight years. Without an initial growth spurt in the E4, output remained "far below the level

[22]And an "embarrassment" to the profession, according to James K. Galbraith. "When unemployment rises, analysts tend to discover that the demographic characteristics of workers are deteriorating, or that the job-wage and wage-price dynamic has become unstable. And when the unemployment rate drifts down again, those flaws mysteriously disappear and a lower NAIRU is estimated" (Galbraith (1997: 101). See also Akerlof et al. 2000.

[23]France, Germany, Italy, UK.

implied by its previous trend" over the five post-peak years, and unemployment remained an average of 4.7 percentage points above what it had been at the pre-recession peak eight years afterwards (199-200).

Moreover, the E4 did not gain much more disinflation in return for durably higher unemployment than the NA2 did from temporarily higher unemployment. Inflation did initially increase in the NA2 but not in the E4. But by eight years after the pre-recession peak, the disinflation gain within the E4 ranged between less and more than in the NA2, averaging 9.1 percentage points in the E4 and 6.8 percentage points in the NA2. Except in Italy, with the greatest disinflation, most of the disinflation gain occurred by the fourth year. Thus, "high unemployment in the E4 eventually stopped putting downward pressure on inflation" (201-202). What was apparently accomplished by preventing a growth spurt and prolonging unemployment was only an *increase* in the E4 NAIRUs, as estimated by the OECD, by an average of 2.9 percentage points. In contrast, the growth spurt which brought ouput and unemployment back to trend-predicted levels in the NA2 was accompanied by NAIRU *reductions* averaging 0.9 points (202). That the prolongation of disinflation and unemployment buys little more reduction in inflation is confirmed with a larger sample of nineteen countries (208).

Similar analyses fail to yield such strong results for the more turbulent 1990s (211). However, evidence that variations in demand, policy-induced or not, help explain variations in actual unemployment and the NAIRU between 1985 and 1997 is provided by comparing four OECD "success stories," in which the NAIRU fell significantly, with six "failures," in which the NAIRU rose or barely fell. What distinguishes successes and failures is the presence and absence of demand expansions. Expansions are identified by increases in inflation since such increases should result from expansions that push unemployment below the initial NAIRU. During the covered years, this happened in three of the four successes – the UK, Portugal, and the Netherlands. Ireland was the exception, but it subsequently fit the pattern. While the largest runups in inflation between 1985-1997 in the other three averaged 4.5 percent, they averaged 1.8 percent in the failures. Yet the inflation runups were temporary in all the European successes, as in the NA2 in the 1980s, and those with the highest runups had the largest NAIRU fall (217-226). They were successes precisely because they could disinflate after the initial runup without arresting declines in the NAIRU, consistent with results for the 1980s.

While details varied, demand expansions in the successes occurred primarily because their economies were overheated by nonmonetary shocks rather than "intentional easings" of monetary policy, producing the temporary inflation runups, but monetary policy contributed to higher growth because it was not tightened until inflation was rising and was eased as soon as inflation stopped rising. Although the failure economies did not become overheated, policy was nevertheless tightened after small inflation runups and kept tight even after inflation was stable or falling and recessions had begun (219-20). The conclusion: "Demand expansions played an important role in the success stories, and . . . a lack of similar expansions helps explain the failures." By enabling unemployment to be durably reduced with only a temporary increase in inflation, "demand expansions helped reduce the NAIRU," confirming the results of the NA2-E4 and nineteen country analyses of the 1980s (217, 219).

That estimated NAIRUs vary over time and that they track actual unemployment quite closely is widely accepted; it has been shown repeatedly (Richardson et al.: 2000). What is contested is how to explain it (and whether a time-varying NAIRU retains any policy relevance). Orthodox explanations attributing NAIRU variations over time solely to differences in structural features of the economy, especially labor-market institutions, run up against a difficulty. While such structural features might help to explain NAIRU variations across countries, they do not vary over time as rapidly as variations in estimated NAIRUs. What does vary about as rapidly is aggregate demand, to which policy contributes. A plausible counterargument is that even unchanged labor-market institutions affect responses to changes in demand. Thus, institutions might turn unemployment increased by a demand contraction into persistent unemployment that cannot be reduced by demand expansion without re-igniting inflation, meaning that the NAIRU has increased. But if after having risen the NAIRU then falls, the difficulty remains. If the institutions that had earlier turned

unemployment resulting from demand contraction into persistent unemployment have not changed sufficiently to so sharply reverse the institutions' alleged effect, it is difficult to see why a demand expansion that reduces unemployment can be accompanied by a fall in the NAIRU.[24] Some other mechanism must evidently account for the downward as well as upward effects of demand variations on the NAIRU.

The mechanism Ball suggests hinges on evidence that short- and long-term unemployment, conventionally defined as under and over a year, respectively, have different effects on the downward pressure on wages that keeps inflation from rising: short-term unemployment (*S*) exerts such pressure but long-term unemployment (*L*) does not (1999: 227-233; my notation). Thus, if a contraction that pushes unemployment above the stable inflation rate of *S* is prolonged, it turns some of the unemployment into *L*, raising total unemployment (*U*) without further reducing inflation, thereby increasing the NAIRU in terms of *U*, even if the stable inflation rate of *S* has not increased. Similarly, a decrease in *U* which lowers *L* without pushing *S* below its stable inflation rate means that *U* has decreased without increasing inflation, thus decreasing the NAIRU.

The different effects of *S* and *L* are ascribed to employers' preference for job applicants who have been unemployed for the shortest time, placing applicants into queues in order of unemployment duration. The rationale is that hiring the long-term unemployed is more costly because they require more training to overcome rusty or obsolete skills or are harder to recruit because they engage in job search less intensively. (Employers may also believe, validly or not, that long unemployment reflects other deficiencies.) Employers go only as far back in the queue as needed to fill existing vacancies. If vacancies are less than or equal to *S*, only the short-term unemployed compete for jobs; the long-term unemployed have little prospect of employment.

The willingness of employed workers to press for wages that would increase inflation (or increase unemployment if policy blocks it) is described as depending on the prospects for reemployment if a successful wage claim leads to the elimination of their jobs. If demand (policy driven or not) and hence employment stays high enough for vacancies to exceed *S*, the chances of reemployment within a year might be judged good enough to risk a wage claim that might eliminate jobs. If the wage increase does not result in job losses, it feeds increased inflation. When vacancies exceed *S*, then, *S* is below the stable inflation rate. When *S* exceeds vacancies, however, the prospects of reemployment within a year might be sufficiently lower to make workers unwilling to risk wage increases that could result in job losses. *S* would then be above the stable inflation rate. When *S* equals vacancies, however, it is not necessarily at the stable inflation rate. If *S* continues to equal vacancies, prospects of reemployment within a year might be judged good enough to risk wage claims that could eliminate jobs. *S* may therefore have to exceed vacancies by some margin that raises the risk of becoming long-term unemployed sufficiently to inhibit such wage claims. But then, assuming employment growth does not eliminate the margin, some short-term unemployed will not be reemployed within a year, becoming long-term unemployed. Slightly reformulating the argument accordingly, some *L*, making the risk of becoming long-term unemployed sufficiently great to provide enough downward pressure on wages, is necessary, with *U* exceeding *S* by the necessary margin of *L*.

This leaves the argument's basic thrust unchanged. Any *L* beyond the margin of *S* exceeding vacancies would still not contribute any additional downward pressure on wages. Competition for jobs would still be confined to short-term unemployed, and the *L* exceeding the necessary margin would still raise the NAIRU by increasing *U* without further reducing inflation. The same reasoning indicates how the mechanism might work in reverse. When a demand expansion produces a growth spurt, vacancies initially ex-

[24]"It is difficult to see how rigidities – a permanent feature of continental European economies for the past 30 years – can suddenly produce a drop in growth rates from more than 3 percent in 1998-2000 to close to zero now. And why did the same rigidities not prevent a European economic boom in the second half of the 1990s?" (De Grauwe, 2003).

ceed *S* (plus the margin of *L*), pushing it below its stable inflation rate. Wages therefore rise to retain existing and recruit new employees, fueling the initial inflation increase. Employers no longer able to fill vacancies from the pool of short-term unemployed go farther back in the job queue, hiring from among the long-term unemployed, despite any extra recruitment and training costs. *L* therefore declines, along with the corresponding *U* (the queue does not shorten as fast as employment rises because those who dropped out of it and others who never entered do so as job prospects brighten, implying that wage pressures do not increase correspondingly either). When the growth spurt ends, growth comes back down to its trend rate, output is at the level at which vacancies no longer exceed S, and *U* exceeds *S* only by the margin of *L* needed to keep inflation stable, so that the NAIRU measured in *U* has come back down. Thus, if the NAIRU rises during a disinflation long enough to increase *L* beyond the needed margin, it stays high in the absence of a growth spurt and falls if there is one.

Ball presents this suggested explanation as a version of hysteresis theories. The term hysteresis originally referred to physical systems displaced by a shock from a previous steady state and which remain in the new state after the shock instead of returning to the previous state. It was applied shock by Olivier Blanchard and Lawrence Summers (1986) to tendencies for changes in unemployment induced by a demand shock to persist long after the shock in order to explain the persistence of high unemployment in Europe following the 1980s disinflations. In their and most subsequent versions, unemployment increased by a demand contraction is turned into persistent unemployment by various labor-market mechanisms, such as the power of employed workers (insiders) to set wages low enough to preserve their jobs but too high to employ the unemployed (outsiders), institutions that diminish employed workers' risks of unemployment and unemployed workers' incentives to seek jobs, and the erosion of skills, search intensity, etc., supposed to result from lengthening unemployment.

In Ball's version, the prolongation of a demand contraction itself rather than such labor-market mechanisms makes unemployment persist. The amount of long-term unemployment is the direct effect of macroeconomic, especially monetary, policy decisions determining the size and duration of disinflations. Since there is no further disinflation while unemployment persists the NAIRU measured in *U* has risen, but this is misleading since the long-term unemployment resulting from the prolonged contraction adds no additional downward pressure on wages, providing that the equilibrium rate of *S* (or of *S* plus the margin of *L*) has not increased. That it has not increased is suggested by the ability of a demand expansion to reduce unemployment without a long-run increase in inflation once the growth rate is back to its potential at the trend level of output. Persistent unemployment created by prolonged demand contraction is thus no obstacle to its own reduction by a demand expansion – i.e., hysteresis, understood this way, is reversible. By the same token, if a demand contraction engineered to bring down inflation is quickly counteracted by an expansion, hysteresis can be largely avoided.

Blanchard and Summers suggest the possible reversibility of hysteresis without explaining why. In Ball's version, a labor-market mechanism also plays a role but it is not what causes unemployment persistence. The principal mechanism is the employers' practice of filling vacancies from only as far back in job queues as needed. This explains not only why the additional *L* produced by prolonged contraction provides no additional downward pressure on wages and hence no additional disinflation over the long run, but also why a demand expansion that reduces most *L* does not relax the downward pressure and thereby increase inflation in the long run. In other words, hysteresis is reversible because "demand expansions reduce the NAIRU in the same way that contractions increase it" (Ball 1999: 211, 228).

Two important issues remain. One concerns the role labor-market institutions may have in explaining NAIRU changes. As summarized so far, Ball's argument offers evidence that demand variations have a role in explaining those changes. However, that role's importance cannot be evaluated without controlling for the effects of the labor-market institutions which, in the orthodox explanation, determines the NAIRU

independently of demand variations.[25] Otherwise the conclusions are as unpersuasive as the claims that labor-market reforms explain declining unemployment in the late 1990s, which the ECB and others make without controlling for macroeconomic policy easing. Fully aware of this, Ball notes that large residuals remain in the regressions in his 1997 paper showing strong relationships between variations in the size and length of disinflations and changes in the NAIRU in twenty OECD countries.[26] He accordingly investigates the effects labor-market institutions might have on the response of unemployment to demand variations. By themselves, none of the institutions identified in the literature are found to have a significant relationship to NAIRU changes except the duration of unemployment benefits, and no labor-market variable "explains nearly as much of the rise in the NAIRU as the size and length of disinflation" (1997: 176). When benefit duration is included in an equation in which it interacts with disinflation size and includes disinflation size, however, the residual is considerably smaller, so "the explanatory power of macropolicy variables increases greatly when we account for interactions with benefit durations."[27] None of the other institutional variables adds to the regressions' explanatory power.[28]

Similar conclusions are reached somewhat differently in the 1999 paper. Although the comparison of the NA2 and E4 shows a strong relationship between monetary policies which permitted or prevented growth spurts and the difference in unemployment trends in the two regions during the 1980s, it "cannot separate the roles of [unemployment benefits] and monetary policy" because the NA2 have shorter benefit durations as well as easier monetary policy than three of the E4. However, in the nineteen-country sample testing the results of the G6 analysis there is sufficient independent variation in the institutional and policy variables to "try to disentangle" their roles (1999: 203-04). When measures of the degree of hysteresis and change in the NAIRU are regressed on measures of monetary policy easing and benefit duration, each variable is found significant. The degree of hysteresis is reduced most when regressed on both variables, with maximum easing of monetary policy having a somewhat greater effect than maximum reduction in benefit duration (206-07).

While the economic complexities of the 1990s preclude similarly strong results, the narrative comparisons between the "success" cases where unemployment fell substantially and the "failures" where they did not suggest conclusions like those for the 1980s. Thus, no consistent relationship is found between economic outcomes and labor-market institutions, whether using indicators at a particular period or of changes over time. Although "labor market variables do not change much over time," there were some reforms in institutions like unemployment benefit duration and replacement rates and employment protec-

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[25]The institutions commonly cited as having negative effects are employment protection, unemployment benefit replacement ratio and duration, union density, bargained or statutory minimum wages, and the tax wedge (between gross and net wages), while degree of wage bargaining coordination and active labor market policy are credited with positive effects. See summary in Baker et al. 2002).

[26]Percentage point changes in the NAIRU are regressed on the size of disinflation measured by the percentage point decrease in inflation over the decade and on the length of disinflation measured by the maximum number of years of continuous disinflation within the decade. The size of the disinflation has an adjusted R^2 of 0.37, the length of disinflation (squared) an adjusted R^2 of 0.53, and the multiple regression, with both both variables, an adjusted R^2 of 0.55 (1997, 172-74). Thus, each "independent variable explains a substantial fraction of the variation in the change in the NAIRU," as do the two variables jointly, though only slightly more than the length of disinflation, making the prolongation of disinflation rather than its size the main explanator.

[27]Change in the NAIRU is regressed on various combinations of interactions of two measures of disinflation, size and length, and duration of unemployment benefits. The interactions of each measure of disinflation with benefits duration yield adjusted R^2 of 0.55 and 0.57, respectively, and when both measures of disinflation are included the adjusted R^2 rises to 0.67. An equation including the length of disinflation and the interaction of the size of disinflation with benefit duration yields the highest adjusted R^2 of 0.75 (Ball 1997, 177). However, the adjusted R^2 of 0.55 when NAIRU changes are regressed on both the size and length of disinflations suggests that demand variation explains substantially more than the labor market variable.

[28]Only coverage of collective bargaining adds to the explanation but only a "little once we control for the interaction between disinflation and benefit duration" (1997: 178).

tion, as well as new incomes policies aimed at curbing wage growth. But reforms occurred in all of the ten cases and incomes policies occurred in both successes and failures, so that "there appears to be little correlation between the extent of reforms and changes in the NAIRU" (216-17).[29] Nevertheless, Ball stresses, his results "do *not* refute the view that major labor-market reforms would reduce unemployment," while they might "complement demand expansions," politically as well as economically (236, emphasis in the original).

There is considerable support for Ball's view of the limited role of labor-market institutions relative to demand variations in explaining unemployment, despite the contrary view of OECD and academic economists comprising the "consensus" invoked by the ECB. Critics of this orthodox view argue that the econometric evidence for it is much weaker than the strong claims made for it.[30] A recent survey of six major studies by Dean Baker et al., supplemented by the authors' own analysis, argues that the many regressions in the six studies are "decidedly not robust" to variations in variable specification, time period, and estimation method" (2002: 23). Given the sensitivity of the regressions to "reasonable alterations in the definitions of institutional variables" and other alternative procedures, it is not surprising that the results are inconsistent and sometimes contradictory (with opposite signs), even within the same study, suggesting a wide range of effects from very small to so large as to be implausible, with empirically falsified predictions.[31] At the same time, unemployment benefit duration, alone significant in Ball's analysis, is one of two variables significant in all regressions "most supportive" of the orthodox view in which it appears (Baker et al., 2002: 22). The other is the tax wedge, which Ball finds not significant (1997: 176). Incomes policy or wage bargaining coordination, "a step *away* from a Walrasian labor market" (Ball 1999: 214, emphasis in the original), is a variable for which he finds ambiguous evidence but which is significant, with the right sign, in five of the six most supportive regressions and in the authors' own analysis (Baker et al. 2002: 22, 26). Their conclusion that there is "Certainly . . . little evidence . . . of the consistency of results which could convincingly underpin sweeping recommendations for labor-market reform (26)," supports Ball's position.

Summing up, Ball does not hold that demand variations, policy induced or not, are the whole explanation for unemployment trends over the long run, a position as implausible as the orthodox view that labor-market institutions are virtually the whole explanation. Instead, his position is broadly consistent with other work analyzing the interaction of institutions and macroeconomic factors, in which the main issue is not whether both matter but the relative weight to attach to each.[32]

There is also evidence besides that cited by Ball that labor markets operate as postulated in his suggested explanation for NAIRU variations, especially on how increases in labor demand improve the "employability" of workers far back in job queues. Unemployment among those relatively disadvantaged in U.S.

[29]Other studies of successes similarly assign primacy to demand expansions while finding no consistent relationships between labor market institutions and outcomes, though the countries vary depending on timing and criteria (Freysinnet 2000; Fitoussi and Passet 2000).

[30]"There is no question that current official rhetoric that attributes the rise in the natural rate to labor and goods market rigidities has run far ahead of the evidence" (Blanchard 1997: 186).

[31]A regression in which generosity of unemployment benefits and wage bargaining structures have the most significant relationship to unemployment predicts a difference between early 1990s unemployment rates in Spain and Portugal (which provide "an acid test of any theory of unemployment") of "only 4 percent, in contrast to an actual difference of 12 percent" (Blanchard 1997: 187-88). For argument that macroeconomic differences, including monetary policy, largely explain the different unemployment rates in the two countries, see Ball 1999: 225-26, Collignon 2002: 167-68, and Pérez, forthcoming.

[32]They also disagree on which institutions matter. The main studies are Blanchard and Wolfers 2000, Fitoussi et al. 2000, and Bertola et al. 2001. The latter build on Blanchard and Wolfers and also refer to Ball's work but discuss only his 1997 paper. Reanalyzing the data in it, they conclude that labor-market institutions explain most of the U.S.-Europe differences. However, they fail to address the more fully elaborated argument in the 1999 paper and its emphasis on growth spurts (Bertola et al. 196-97). All three are discussed in Baker et al. 2002.

labor markets – the less educated, nonwhites, and less-skilled women – typically fluctuates more than that of the relatively advantaged – more educated white males (Hoynes 1999). Thus, as U.S. unemployment moved to long-time lows in the 1990s, employers sought workers in central-city black ghettoes, providing training and helping reduce the black/white unemployment gap (*New York Times* 1999a, b, 2000; Freeman and Rodgers 1999). Similarly, as the French economy experienced unprecedented employment growth between September 1997 and September 2000 (over a million jobs), unemployment among the long-term unemployed and those less than twenty-five years old or without secondary school diplomas fell by 4 to 7 percentage points more than the 20.5 percent average decline. Although women's unemployment declined less than average, it still fell more relative to the 1987-1990 boom period than that of any other of the groups (Pisani-Ferry 2000: 34, 287).[33] While it has been shown that lower-skilled workers are "bumped down"– and off – job queues in recessions as skilled workers fill vacancies for which they are "overqualified" in many countries, French data and preliminary data for Germany and Sweden show the process is reversed in expansions as more qualified workers move up to jobs for which their skills are more needed and the less qualified move into jobs for which their skills suffice or for which they can be trained (Gautié et Nauze-Fichet 2000; Åberg 2003, 2004).[34]

The 1990s recoveries brought long-term unemployment down, not only in France but elsewhere. A comprehensive survey of long-term unemployment in Europe concludes that it "is not a problem independent of unemployment itself" (Machin and Manning 1999: 3086). During the late 1990s European expansion (before the ECB aborted it), "The share of the labor force . . . unemployed for more than 6 or 12 months has fallen in all the countries that have registered falling aggregate unemployment rates . . . notably (more than 5 percentage points) in Portugal, United Kingdom, Denmark, Netherlands and Norway" (OECD 2000a: 216-17) – i.e., countries with above-average declines in unemployment identified as successes by Ball and others. In the eurozone, the share of long-term unemployment in total unemployment fell considerably more than unemployment fell, 3.2 compared with 2.5 percentage points, respectively, during 1997-2000 (ECB 2002, 11,13). Participation rates also rose, though more modestly.[35] Such evidence certainly confirms Ball's assertion that the long-term unemployed "can be reemployed if demand is sufficiently strong" (1999: 231), and hence why hysteresis is reversible, and why the NAIRU rose where monetary policy was persistently restrictive but fell where it more quickly turned expansionary. This, in turn, strongly supports our suggestion that the successively larger unemployment gaps between Europe and the U.S. in the 1980s and 1990s result largely from the different reaction functions of the Fed and the Buba.[36]

However, this brings us to the second issue: the direction of causality. Even if differences in central bank reaction functions largely explain unemployment differences, there remains the question of why the reac-

[33]Unemployment of workers over fifty fell much less, only 7.6 percent. Some of the improved employment of the other relatively disadantaged is attributable to lowered costs for hiring the lowest skilled but the overall rise in employment suggests that not much subsidized employment substituted for unsubsidized employment (Pisani-Ferry 2000: 34-35).

[34]On Germany, Wolfgang Scheremet, personal communication.

[35]Hence a sustained reduction in unemployment requires enough employment growth to absorb not only the unemployed at the time unemployment was highest but also those who had left the labor force or did not enter it at that time but are now drawn into it (Pisani-Ferry 2000: 62-68, 179).

[36]Taylor-type rules may be a misleading basis for comparing central bank reaction functions. Such rules model interest-rate decisions as a function of gaps between actual and potential output and between actual (or expected, in a year or two) and targetted inflation (Clarida et al. 1998: 1034). If the difference in central bank reaction functions that matters most for the long run effects on unemployment is whether they permit or prevent growth spurts, Taylor-type rules might not capture it if they do not allow for growth spurts. To do so might require an inflation target term that varies over the longer period in which output is brought back up to its trend level. They could also be misleading if the output gap term is too low, as is likely if the output gap is built on estimates of equilibrium unemployment that attribute most of it to labor market structures rather than demand, as the ECB consistently does, or if the inflation target term is too low, as is likely if it is the ECB's target. In both cases, restrictiveness would be underestimated.

tion functions differ. Differences in labor-market institutions could be the answer. If those differences largely determine how low unemployment can be without accelerating inflation, as the ECB insists, that could explain the differences in the banks' reaction functions and therefore the differences in unemployment trends. As a commentator on Ball's 1999 paper suggests, "Countries that experienced large increases in their NAIRUs were induced to pursue less expansionary policy" (Mankiw 1999: 238). Instead of running from monetary policy to the NAIRU, as Ball argues, the direction of causality could therefore be the reverse. However, this issue was already raised in Olivier Blanchard's comments on the 1997 paper. He suggests an econometric test of the alternative interpretations: "Decompose disinflation as inflation in 1990 minus inflation in 1980, and allow the two inflation terms to enter with separate coefficients. Under Ball's hypothesis that disinflation matters, the two terms should come in with coefficients equal but of opposite sign. Under the alternative . . . only inflation should matter, not how low governments decided to push inflation down at the end of the 1980s." He concludes that when Ball carried it out his interpretation of the direction of causation was unambiguously confirmed. "It works like a charm: the coefficients are equal and of opposite sign" (Blanchard 1997: 188). Robert Solow agrees (1999: 12).

Ball finds additional evidence in the central banks' own explanations for their actions (Ball 1999: 197-98), suggesting that their actions stemmed from their *beliefs* about the determinants of country NAIRUs, even if the diverse NAIRU changes were actually caused mainly by the banks' own actions. Much has been written on the "political power of economic ideas" (Hall 1989), including the continuity of ideas between the Bundesbank and the ECB (Fitoussi 1995; McNamara 1998; Heisenberg 1999).[37] The contrasting policies of the Fed and ECB in the late 1990s U.S. boom and the current European recession in recent years are attributed by De Grauwe (2003) to paradoxically similar ideas, which in both cases were wrong, leading to wrong policies. In both cases, "policymakers decided that the economic conditions they observed were driven by structural factors." Claiming that America's "boom was not just some temporary demand upsurge" but resulted from structural changes wrought by the "information technology revolution, promising permanently higher growth rates," the Fed fuelled a "classic bubble led by the exaggerated expectations of believers in fairy tales." The ECB, blaming the eurozone's recession on "structural rigidities," especially in labor markets, as we know, "has been slow in stimulating the economy," helping to "sustain the recession by spreading the word that nothing can be done about it for the foreseeable future," making the ideas "self-fulfilling prophecies."

Thus, Ball's argument seems to meet the two issues successfully. If the argument is therefore essentially right, it casts doubt not only on the empirical basis of the ECB's position but also the neutrality of money postulate providing its theoretical basis. That postulate, holding that demand variations caused by monetary policy can have only short-run effects on real activity such as growth and unemployment, which return to their structurally determined levels in the long run and leave only changes in prices, seems untenable in the light of the effects of contrasting central bank policies on output and unemployment which Ball finds over periods up to ten years. Critiques of the neutrality postulate based on the effects of monetary policy on capital accumulation point the same way.

While Ball's analysis focuses explicitly on how the effects of monetary policy on labor-market tightness interact with firms' employment decisions, it implicitly refers to effects on the investment decisions on which the employment decisions depend, and which in aggregate determine the growth in the economy's productive capacity, and hence the rate at which output can grow consistently with stable inflation. Others link monetary policy explicitly to investment decisions. Blanchard argues it is "now widely accepted" that "real interest rates . . . play an important role in accounting for the natural rate of unemployment." High interest rates help explain "why the natural rate remained high in Europe in the 1980s" because they increase "user cost, which leads to lower capital accumulation, which in turn leads to lower employment."

[37]Of course, the power of economic ideas has much to do with the power of those who hold them. It also has to do with their changing plausibility in changing contexts. For a subtle analysis of "periodic changes in the ideas informing economic policies," see Notermans 2000, especially 37-41.

If those interest rates result from "monetary policy – as seems plausible during a period [of] disinflation policies, the creation of the euro, and so on – does this not imply that monetary policy can have long-lasting effects, not only on the deviation of the actual unemployment rate from the natural rate but also on the natural rate itself?" (Blanchard 2000: 297).[38] Citing capital accumulation too, Benjamin Friedman questions economists' acceptance of the "simplest theory" that monetary policy's real "effects are not long-lasting . . . though the evidence for it is so slight," whereas there are "plenty" of "not simple" theories, "typically focusing on various kinds of either human or physical capital formation, according to which monetary policy plausibly has very long-lasting real effects" (1999b: 56-7).[39]

Proposing one such theory, Stefan Collignon also starts with the increased cost of capital resulting from high interest rates (2002: 144, 180-85). This makes it necessary to reduce unit labor costs to restore profit margins. Productivity is accordingly raised, but by eliminating labor-intensive units rather than investing in new higher productivity units, thereby increasing unemployment while increasing the capital share.[40] There appears to be an increase in the capital/labor ratio in response to earlier wage pressure, as some have argued, but it is a statistical artefact of scrapping labor-intensive units in response to the increased cost of capital while new investment is simultaneously inhibited.[41] Unless central banks reduce nominal interest rates as inflation declines, the real interest rate stays high (at best) or rises (at worst), leaving the cost of capital high or increasing, inhibiting investment and hence retarding employment growth and keeping unemployment high.[42] Thus, the reduction in the wage share is not followed by an increase in the capital stock because it is not accompanied by a sufficient reduction in real interest rates to reduce the cost of capital.[43] If, however, real interest rates decline enough to reduce the cost of capital, the prospect improves that profits from new investment in productive capacity will exceed returns from alternative (risk-free securities) investments, plus a risk premium. The capital stock and therefore employment increase, provided that demand can be expected to grow sufficiently to absorb the resulting increase in output, and unit labor costs remain consistent with the required profit margins.[44] Whether unemployment decreases or not then depends on whether monetary policy induces sufficient capital accumulation to increase employment more than labor force and productivity growth.

From this perspective, the ECB can only claim that most unemployment is structural and hence intractable to monetary policy over the long run by ignoring monetary policy's lasting impact on capital accumulation, as done in the Layard et al. (1991), as well as OECD (1994a) and related analyses of relationships be-

[38]Collignon (1998) answers that question in the affirmative because of monetary policy's effects on capital accumulation. While noting that "this is an important issue, on which there is surprisingly little work," Blanchard cites Ball's 1999 argument as "related, but not identical" (2000: 297-98).

[39]Friedman points out that the growth of human as well as physical capital may be retarded by recessions insofar as it kept young people from entering the labor market, depriving them of job training and experience at a crucial stage in life (personal communication).

[40]The capital share rose in Europe where interest rates were kept high but did not in the U.S. where they were not kept as high.

[41]See also Rowthorn (1995: 31). Berthold et al (1999) argue that the capital/labor ratio increased in France and Germany in response to union power to raise wages.

[42]Monetary policy rather than labor market institutions is thus the source of hysteresis that increases the NAIRU, as in Ball's account (Collignon 2002: 173-174,189).

[43]This describes the European situation.

[44]Collignon's model of the relationship between monetary policy and investment is based on the ratio of the expected real rate of profit to the real money market interest rate, known as Tobin's q. From the firm's standpoint, investment projects will only be worthwhile if they are expected to yield at least enough to service the debt at the money market plus risk premium rate or, in the case of financing out of retained earnings, at least as much as alternative investments. The expected real rate of profit depends on the rate of growth of demand for the output resulting from the investment that is expected over the life of the investment. This in turn depends on the rate of growth of output in the economy as a whole that the macroeconomic policy regime may be expected to sustain.

tween various labor-market institutions and unemployment underlying the ECB position which typically assume a constant capital stock. As Rowthorn points out, they make "the problem of job creation primarily a matter of encouraging more employment on existing capital stock" (1995: 27). While this may hold in the short run, it can hardly be extrapolated over the long run during which capital accumulation occurs. If monetary policy has long run effects on growth and unemployment through its effect on capital accumulation, however, it is not simply its stance at any particular juncture that matters but its pattern over time – i.e., the policy regime. Since the growth rate of capital stock is the aggregate result of investment decisions, it must be based on the decision makers' expectations about the growth in demand for the resulting production. Hence, as argued earlier, their expectations of how macropolicy will affect demand growth as well as costs over the economic life of the investments must enter into their decisions.

As we saw, the ECB's actions and statements suggest that it believes growth cannot be allowed to exceed the 2 - 2.5 percent long-term trend rate the ECB evidently regards as consistent with stable inflation, even if output remains below its trend level. It thus seems to have a growth rate target as well as an inflation target, even though it is not included in its announced strategy. If so, it is likely to prevent a period of sufficient above-trend growth to lower unemployment to where it would have been if disinflation had not pushed growth below trend – i.e., a growth spurt such as Ball observed in the NA2 and European "success stories." The ECB would thus prevent a return to low unemployment just as E4 central banks did in the 1980s. In doing so, the ECB would turn its view of the allowable growth rate into a self-fulfilling prophecy. This would result not only from keeping long-term unemployment, and therefore the NAIRU, high. It would also result from keeping the growth rate of capital stock too low to decrease unemployment significantly. If the ECB's actions convince investment decision makers that it will tighten policy if an expansion pushes output growth above its long-run trend, as it did in 2000, they will presumably invest in only as much new capacity as would be profitable at the level of demand which the ECB can be expected to allow. This would increase the capital stock only enough to produce output at the level at which growth would be restored to its trend rate in the absence of an above-trend growth spurt, leaving output at a level lower than predicted by the pre-disinflation growth trend and unemployment higher than it would be at the higher output level.

With capital stock limited to the lower output level, an effort to reduce that unemployment by expanding demand would come up against capacity constraints, increasing inflationary pressures. This would apparently confirm the ECB's position that unemployment cannot be lowered by macropolicy without accelerating inflation. However, this would result not from the labor-market institutions to which the ECB attributes the "speed limit," but from the ECB's own policy of keeping growth from exceeding its trend rate, thereby keeping the capital stock from growing enough to produce higher output and lower unemployment without higher inflation – i.e., the sustainable growth rate is what it is because the central bank makes it so.[45] As long as the ECB is unwilling to tolerate the temporary increase in inflation that would accompany a growth spurt large and long enough to increase the capital stock sufficiently to reach the pre-disinflation trend level of output, unemployment will continue to fluctuate around high levels.

Conclusion

This paper argues that the macroeconomic policy regime implemented by the ECB so far is likely to keep unemployment high, especially insofar as it precludes a growth spurt sufficient to significantly reduce unemployment. That the ECB is unwilling to permit such a growth spurt is indicated by its actions that contributed to ending the late 1990s European expansion and by the rationale it provides for its actions. Based on the orthodox view that monetary policy has no long run effects on growth and employment, that rationale permits the ECB to abdicate from any responsibility for unemployment, which it ascribes almost entirely to structural factors, especially "rigidities" in the labor market, which it is up to other actors to

[45]See Collignon, 1998.

remedy. Pending such remedy, the ECB insists, the best it can do to promote growth and employment – also part of its Treaty mandate – is to maintain price stability, defined as very low inflation.

The proposition that a period of above-trend growth – a growth spurt – is needed to reduce unemployment to what it would have been if growth had not been interrupted by a recesssion, policy induced or not, is the core of an alternative view of the relation between monetary policy and unemployment. This view is based on empirical analysis of variations in unemployment between the U.S. and Europe and within Europe in the 1980s and 1990s. It provides strong evidence that differences in monetary policy largely explain the unemployment variations, without denying that labor-market institutions can have some effect on monetary policy's impact. In particular, it shows that unemployment was lower without higher inflation in the long run where monetary policy permitted growth spurts than where it did not. The mechanisms which might account for these results are suggested in the analysis, and I cite additional empirical evidence that seems to confirm the operation of such mechanisms. If the analysis is correct, the proposition that monetary policy can have no long-run effects on growth and employment on which the ECB relies to justify its policies seems untenable. That proposition is also challenged directly in other work on the basis of monetary policy's effects on capital accumulation.

Strong doubt is thus cast on the rationale for the EMU macroeconomic policy regime as implemented by the ECB. However, it is obviously impossible to demonstrate that the ECB view is wrong and the alternative correct within the confines of this short paper; it may well be impossible in work of any scale, given the vast amount of empirical and theoretical issues involved.[46] All that is attempted here is to show that there is a serious case to be made for the alternative view.

This chapter also concentrates almost entirely on issues of monetary policy at the core of that case. Thus, fiscal policy, the focus of intense current controversy over the Stability and Growth Pact (SGP), verging on an EMU crisis, is virtually ignored.[47] The SGP is certainly an integral part of the EMU macroeconomic policy regime, as the ECB and Commission insist. And in that role, as many point out, it has serious flaws in it (Buti et al. 2003, De Grauwe 2003a).[48] Among its most egregious are its pro-cyclical tendencies and insufficient room for maneuver for countries where the one-size-fits-all monetary policy is particularly restrictive, notably Germany (Mackie and Pepino 2003a, b).

Yet the main problem with the regime is not the SGP but the ECB's policy orientation, from which the SGP controversy deflects attention (*Financial Times* 2003). There are good grounds for prescribing budget balances over the cycle, implying surpluses during expansions as well as deficits during recessions, providing that there is ample scope for automatic (and even discretionary) stabilizers, and also for public investment (in human as well as physical capital), and, in the EMU context, coordination of national fiscal policies to achieve a eurozone fiscal stance consistent with a growth-promoting monetary policy (Begg, I. 2003; Pisani-Ferry 2002). EMU is now poorly equipped to meet those conditions. Even as it stands, however, the SGP would pose much less of a problem if the ECB's monetary policy were not so restrictive. By keeping growth too low – cutting off the late 1990s growth spurt and subsequently easing policy too little and too late – the ECB has retarded the growth of revenue as well as adding to social-policy burdens, making it much more difficult than it would otherwise be for governments to meet the SGP's requirements.

If the ECB's policy orientation is indeed wrong and the alternative view more nearly correct, there will be no progress to the renewed goal of full employment. Unless there is a shift in the EMU policy regime toward one in which monetary policy takes responsibility for growth and employment as well as price sta-

[46]Citing Pierre Duhem and W. V. O. Quine, Notermans suggests that "it is well-nigh impossible to refute theories by empirical evidence" (2000: 16).

[47]Also ignored are such fundamental issues as the composition and ecological sustainability of growth.

[48]From a political perspective, as Collignon argues, its fundamental flaw is that it is "normatively incoherent with democracy" (2004: 5)

bility, Europe is therefore likely to experience continued high unemployment, posing what is probably the most serious threat to the European social model.

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